

CLAIMS

We claim:

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Sub C1
1. A substantially water-free thermoplastic article comprising from about 1 to about 99% by weight of an unmodified polyvinyl alcohol and from about 99 to about 1% by weight of a thermoplastic elastomer.

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2. The thermoplastic article of Claim 1, wherein a 4% in water solution of the unmodified polyvinyl alcohol at 20 °C has a viscosity of less than about 20 centipoise.

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3. The thermoplastic article of Claim 2, wherein a 4% in water solution of the unmodified polyvinyl alcohol at 20 °C has a viscosity of less than about 10 centipoise.

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4. The thermoplastic article of Claim 1, wherein the unmodified polyvinyl alcohol has a hydrolysis of less than about 95%.

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5. The thermoplastic article of Claim 4, wherein the unmodified polyvinyl alcohol has a hydrolysis of less than about 90%.

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6. The thermoplastic article of Claim 1, wherein the unmodified polyvinyl alcohol has a weight-average molecular weight of less than about 140,000.

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7. The thermoplastic article of Claim 6, wherein the unmodified polyvinyl alcohol has a weight-average molecular weight of less than about 60,000.

8. The thermoplastic article of Claim 1, wherein the unmodified polyvinyl alcohol has a melt viscosity at a shear rate of 500 s⁻¹ of less than about 1500 Pa•s.

9. The thermoplastic article of Claim 1, wherein the thermoplastic article has less than about 2.0 percent by weight of water.

10. The thermoplastic article of Claim 1, wherein the thermoplastic article has less than about 1.0 percent by weight of water.

11. The thermoplastic article of Claim 1, wherein the thermoplastic article has less than about 0.5 percent by weight of water.

12. The thermoplastic article of Claim 1, wherein the thermoplastic elastomer is selected from polystyrene-polybutadiene-polystyrene block polymer, polystyrene-polyisoprene-polystyrene block polymer, polystyrene-poly(ethylene-butylene)-polystyrene block polymer, polystyrene-poly(ethylene-propylene)-polystyrene block polymer, elastomeric polyurethanes, ethylene-octene copolymers, polyester polyurethane, natural rubber, nitrile rubber, butyl rubber, ethylene-propylene terpolymers, silicone rubber, polyurethane rubber, thermoplastic rubbers, elastomeric block copolymers, copolymers of polyethylene oxide and polybutylene terephthalate, polyamide-polyether block copolymers, styrenic block copolymers, elastomeric polypropylene, or mixtures thereof.

13. The thermoplastic article of Claim 1, wherein the thermoplastic article comprises from about 50 to about 90% by weight of an unmodified polyvinyl alcohol and from about 50 to about 10% by weight of a thermoplastic elastomer.

14. The thermoplastic article of Claim 1, wherein the thermoplastic article comprises from about 65 to about 80% by weight of an unmodified polyvinyl alcohol and from about 35 to about 20% by weight of a thermoplastic elastomer.

¹⁴~~15~~. The thermoplastic article of Claim 1, wherein the thermoplastic article is a film.

¹⁵~~16~~. The thermoplastic article of Claim 1, wherein the thermoplastic article is a fiber.

¹⁷~~17~~. A thermoplastic article comprising from about 1 to about 99% by weight of an unmodified polyvinyl alcohol and from about 99 to about 1% by weight of a thermoplastic elastomer, wherein the thermoplastic article has less than about 2.0 percent by weight of water.

¹⁷~~18~~. The thermoplastic article of Claim ~~17~~, wherein a 4% in water solution of the unmodified polyvinyl alcohol at 20 °C has a viscosity of less than about 20 centipoise.

¹⁸~~19~~. The thermoplastic article of Claim ~~18~~, wherein a 4% in water solution of the unmodified polyvinyl alcohol at 20 °C has a viscosity of less than about 10 centipoise.

¹⁹~~20~~. The thermoplastic article of Claim ~~17~~, wherein the unmodified polyvinyl alcohol has a hydrolysis of less than about 95%.

²⁰~~21~~. The thermoplastic article of Claim ~~20~~, wherein the unmodified polyvinyl alcohol has a hydrolysis of less than about 90%.

²¹~~22~~. The thermoplastic article of Claim ~~17~~, wherein the unmodified polyvinyl alcohol has a weight-average molecular weight of less than about 140,000.

²²~~23~~. The thermoplastic article of Claim ~~22~~, wherein the unmodified polyvinyl alcohol has a weight-average molecular weight of less than about 60,000.

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24. The thermoplastic article of Claim 17, wherein the unmodified polyvinyl alcohol has a melt viscosity at a shear rate of 500 s^{-1} of less than about $1500 \text{ Pa}\cdot\text{s}$.

5 25. The thermoplastic article of Claim 17, wherein the thermoplastic elastomer is selected from polystyrene-¹¹² polybutadiene-polystyrene block polymer, polystyrene-polyisoprene-polystyrene block polymer, polystyrene-poly(ethylene-butylene)-polystyrene block polymer, polystyrene-poly(ethylene-propylene)-polystyrene block polymer, elastomeric polyurethanes, ethylene-octene copolymers, polyester polyurethane, natural rubber, nitrile rubber, butyl rubber, ethylene-propylene terpolymers, silicone rubber, polyurethane rubber, thermoplastic rubbers, elastomeric block copolymers, copolymers of polyethylene oxide and polybutylene terephthalate, polyamide-polyether block copolymers, styrenic block copolymers, elastomeric polypropylene, or mixtures thereof.

26. The thermoplastic article of Claim 17, wherein the thermoplastic article comprises from about 50 to about 90% by weight of an unmodified polyvinyl alcohol and from about 50 to about 10% by weight of a thermoplastic elastomer.

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27. The thermoplastic article of Claim ¹⁶17, wherein the thermoplastic article comprises from about 65 to about 80% by weight of an unmodified polyvinyl alcohol and from about 35 to about 20% by weight of a thermoplastic elastomer.

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28. The thermoplastic article of Claim ¹⁶17, wherein the thermoplastic article is a film.

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29. The thermoplastic article of Claim ¹⁶17, wherein the thermoplastic article is a fiber.

30. A substantially water-free blend composition comprising from about 1 to about 99% by weight of an unmodified polyvinyl alcohol and from about 99 to about 1% by weight of a thermoplastic elastomer.

29/31. A personal care article comprising the composition of Claim 1.

30/32. The personal care article of Claim 29, wherein the personal care article is a diaper.

31/33. The personal care article of Claim 29, wherein the personal care article is a feminine pad.

32/34. The personal care article of Claim 29, wherein the personal care article are training pants.

33/35. The personal care article of Claim 29, wherein the personal care article is an adult incontinence product.

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